Flight Instruction
MANUAL

AIRWOLF ™
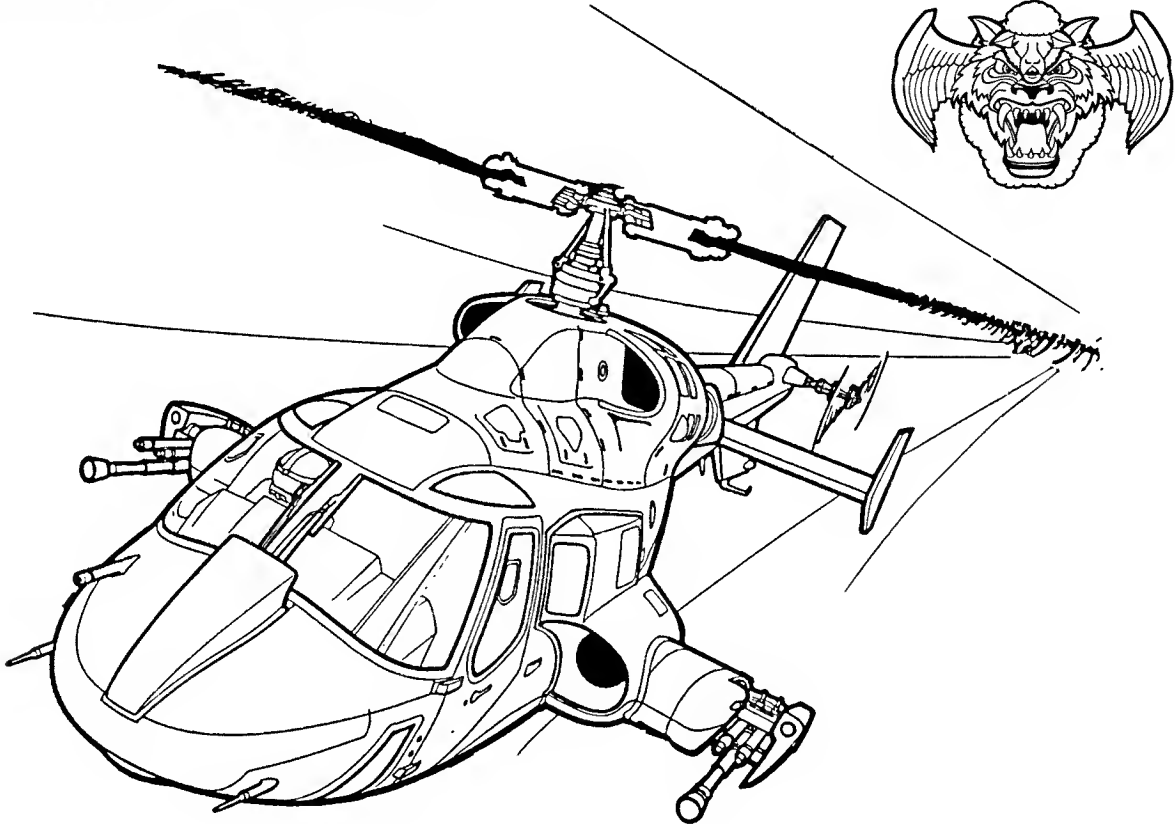
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UNITED AMUSEMENTS
1975 RIVERSIDE DRIVE
LOS ANGELES, CA 90039

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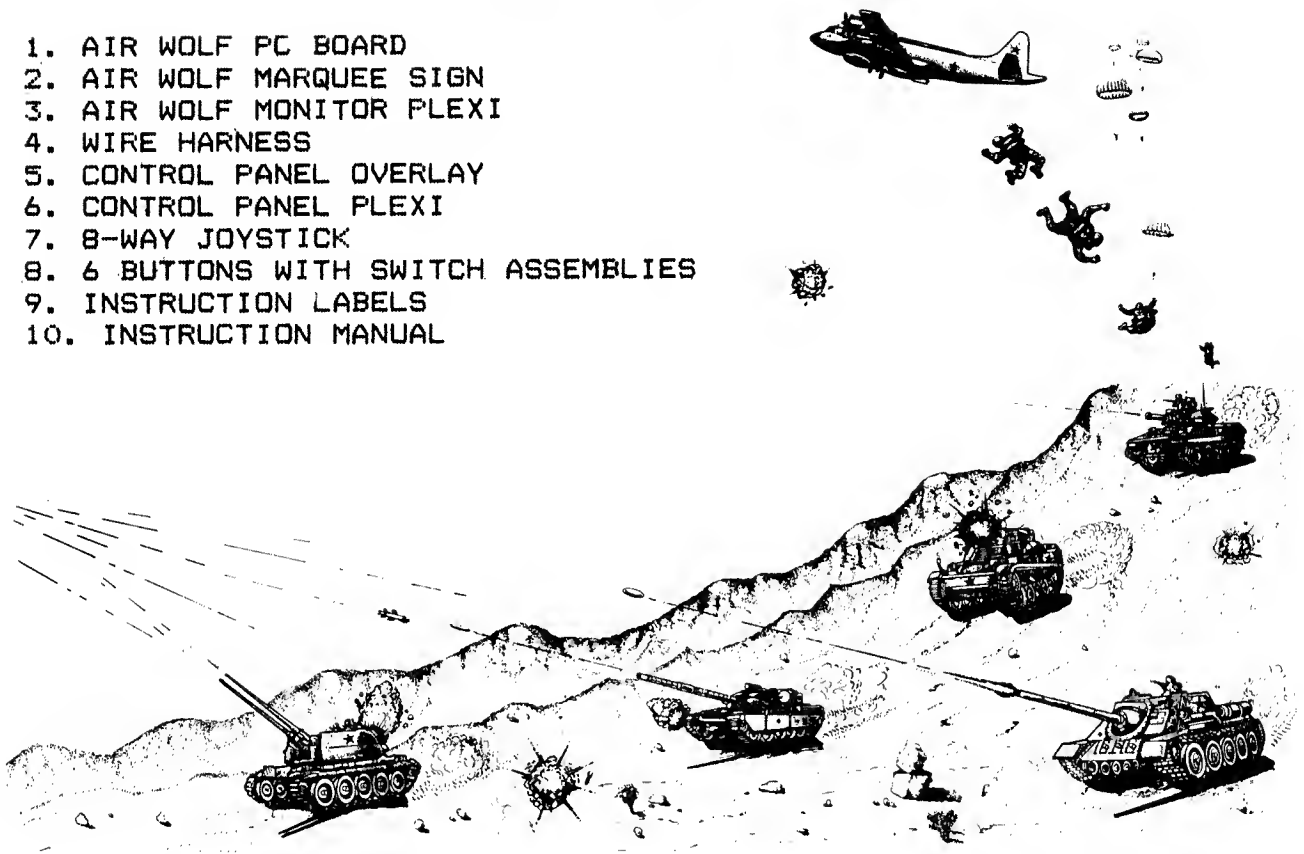
IMPORTANT F.C.C. WARNING

W A R N I N G

This equipment generates, and can radiate radio frequency energy
and if not installed and used in accordance with the instruction
manual, may cause interference to radio communications.
As temporarily permitted by regulation it has not been tested for
compliance pursuant to subpart J of part 15 of F.C.C. rules, which
are designed to provide reasonable protection against such
interference. Operation of this equipment in a residential area is
likely to cause interference in which case the user, at his own
expense, will be required to take whatever measures may be necessary
to correct the interference.
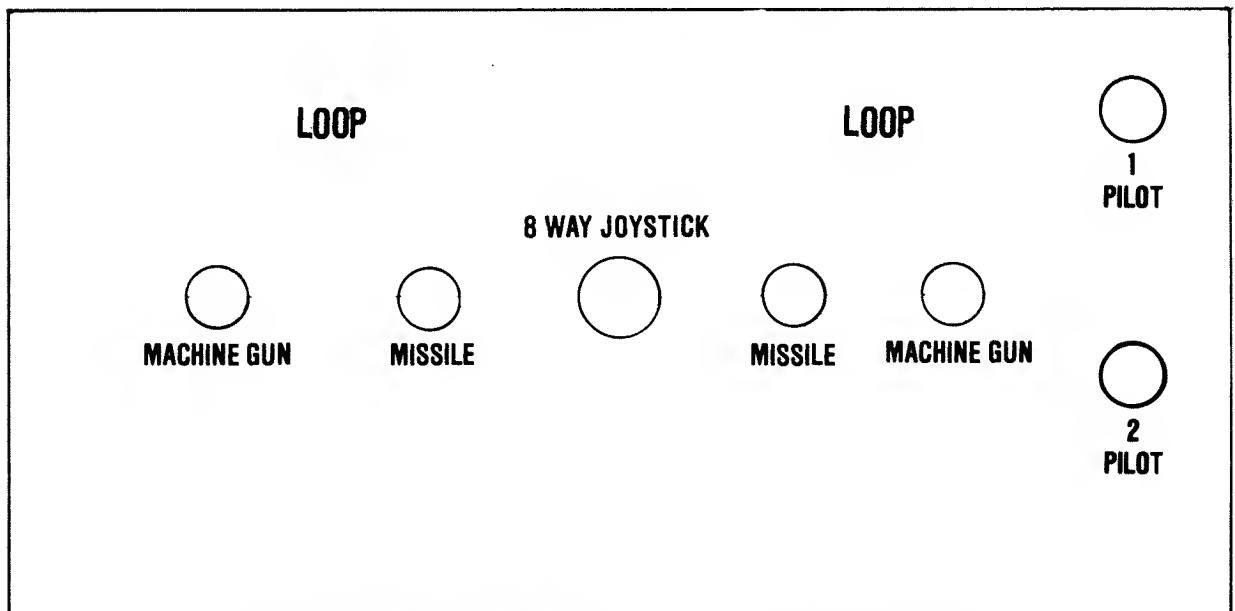
PREPARING THE CABINET

STEPS:
1. Remove the old P.C. board
2. Remove the control panel
3. Remove the marquee sign
4. Remove front or side decals
5. Remove the old wire harness

Leave all the A.C. wiring to monitor, power supply, flourescent lamps, fuses, on/off switches, and transformer circuitry intact. Remove all remaining wiring from the cabinet.

Clean the cabinet thoroughly and repair any visible damage. Using a coat of paint on an older cabinet can restore a "like new" appearance. If needed, painting should be performed at this time.

A little extra time and effort spent now on enhancing a cabinet's appearance will definitely result in increased earning power later!

SUGGESTED CONTROL PANEL LAYOUT

LOOP   LOOP   1
                                      PILOT

                8 WAY JOYSTICK

MACHINE GUN   MISSILE   MISSILE   MACHINE GUN   2
                                                    PILOT

HORIZONTAL MONITOR MOUNTING   +5, +12, — VOLTS REQUIREO

SPECIAL REQUIREMENTS

TV MONITOR:

> This game is designed to be used with a
>
> > horizontally [X]
> > vertically   [ ]
>
> mounted R.G.B. monitor, with the PCB as a
> negative polarity video and sink signals.
>
> Your new game requires one sink wire connection
> called "composite sink". Tie the horizontal and
> vertical wires together, this signal is negative.
> Most monitors have supply positions for both
> negative and positive sink.

POWER SUPPLY:

> The power supply requirements are as follows:
>
> > +5 VDC   at 7 amps   [X]
> > +12 VDC at 1 amps   [X]
>
> If the power supply in the game does not meet these
> requirements, it should be replaced prior to beginning
> the conversion procedures.

CONTROL PANEL:

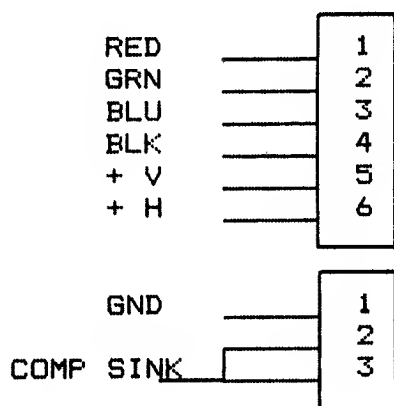> The control panel on the game to be converted can be
> either metal or wood. When selecting a game to convert
> consider the placement of joystick, push buttons and
> the monitor position.
>
> Route the wires labeled control 1 (for upright) to
> your control panel. Cut this down to the required
> length. Strip and solder the wires to the joystick,
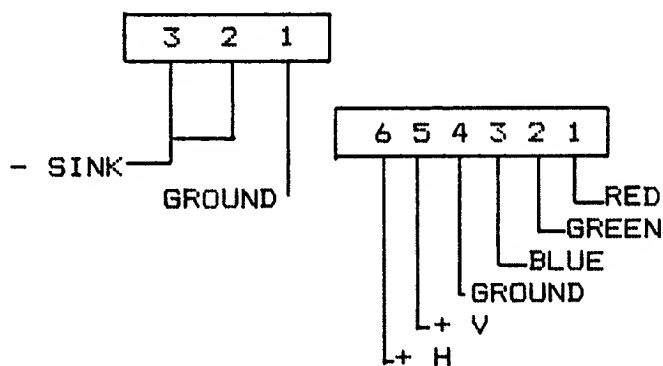> and push buttons according to the pin-out assignments.

MONITOR WIRING:

Route the wires labelled "VIDEO" or "MONITOR" up to
your monitor and cut the excess wire. Refer to the
pin-out assignment at the back of this manual for video
outputs. The color code is as follows:

RED wire	------	VIDEO RED
GREEN wire	------	VIDEO GREEN
BLUE wire	------	VIDEO BLUE
BLACK wire	------	VIDEO GROUND
WHITE wire	------	NEGATIVE COMP. SINK

```
RED  ───────┐ 1
GRN  ───────┤ 2
BLU  ───────┤ 3
BLK  ───────┤ 4
+ V  ───────┤ 5
+ H  ───────┘ 6


GND  ───────┐ 1
            │ 2
COMP SINK ──┘ 3
```

WELLS GARNER

```
        ┌─ 3   2   1 ─┐
        │             │
 - SINK ─┘             │
          GROUND ──────┘


    ┌─ 6  5  4  3  2  1 ─┐
    │  │  │  │  │  └─RED
    │  │  │  │  └───GREEN
    │  │  │  └──────BLUE
    │  │  └─────────GROUND
    │  └──────────── + V
    └─────────────── + H
```

ELECTRO HOME

POWER SUPPLY WIRING:

Attach the wire harness connector to the main logic PCB.
*** CAUTION: Sometimes the connector is not keyed and
                it is very easy to install it reversed on
                the logic board. Double check that it is
                wired and connected properly.
The label with the game name should face the component
side of the PCB.

Separate the bundle of wires labeled "POWER" and route
them to your power supply. Strip about 1/2 " off the
insulation and attach them to the power supply screws.
The color code is:

        RED wire # 18   -------   + 5 VDC
        GREEN wire # 18   -------   + 12 VDC
   BLACK wire   -------   GROUND

NOTE:
        You can use the -5 VDC to power the lights to
        the coin door or the lighted push buttons.
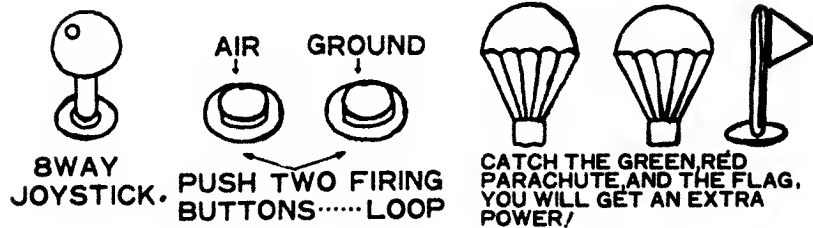

COIN SWITCHES:

Most games have two coin outputs. Coin 1 must go to
the N.O. (normally open) terminal of the microswitch,
(same as with coin 2) and a ground wire will go to the
common terminal of the microswitch.

If you wish to use a coin meter for both coin mechanisms,
connect only one coin output to both coin switches. This
will save you the use of two coin meters.

<CONNECTION OF HARNESS>
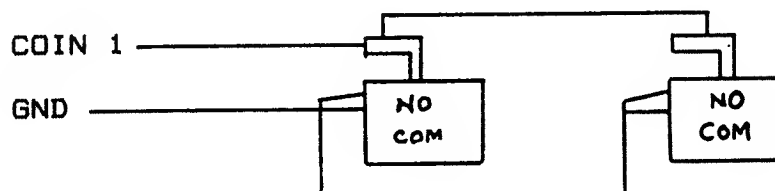
PARTS SIDE		SOLDER SIDE
GND	1	GND
GND	2	GND
	3	GND
SP OUT	4	SERVICE
+12V	5	+12V
	6	
	7	
1P SHOT-2	8	COIN2
+5V	9	+5V
1P DOWN	10	2P UP
2P SHOT-2	11	1P UP
2P SELECT	12	2P DOWN
1P SELECT	13	COIN1
1P RIGHT	14	1P SHOT-1
1P LEFT	15	RED
BLUE	16	2P RIGHT
GREEN	17	2P LEFT
SYNC	18	2P SHOT-1

8WAY JOYSTICK.

AIR   GROUND

PUSH TWO FIRING BUTTONS……LOOP

CATCH THE GREEN,RED PARACHUTE,AND THE FLAG. YOU WILL GET AN EXTRA POWER!

DIP SW No.1

SWITCH NO.		1	2	3	4	5	6	7	8
NO OF FIGHTERS	3							OFF	OFF
	4							OFF	ON
	5							ON	OFF
	6							ON	ON
TYPE	TABLE		OFF						
	UP RIGHT		ON						
STOP	NORMAL OFF	ON							
SOUND TEST	NORMAL OFF			ON					
FREE PLAY	NORMAL OFF				ON				
CONTINUE PLAY	NORMAL OFF						ON		

DIP SW No.2

SWITCH NO.		1	2	3	4	5	6	7	8
COIN 1	1PLAY/1COIN						OFF	OFF	OFF
	2PLAY/1COIN						OFF	OFF	ON
	3PLAY/1COIN						OFF	ON	OFF
	4PLAY/1COIN						OFF	ON	ON
	6PLAY/1COIN						ON	OFF	OFF
	1PLAY/2COIN						ON	OFF	ON
	2PLAY/3COIN						ON	ON	OFF
	FREE PLAY						ON	ON	ON
COIN 2	1PLAY/1COIN			OFF	OFF	OFF			
	2PLAY/1COIN			OFF	OFF	ON			
	3PLAY/1COIN			OFF	ON	OFF			
	4PLAY/3COIN			OFF	ON	ON			
	1PLAY/2COIN			ON	OFF	OFF			
	1PLAY/3COIN			ON	OFF	ON			
	1PLAY/4COIN			ON	ON	OFF			
	1PLAY/5COIN			ON	ON	ON			